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Indian Standard
SPECIFICATION FOR
ROUND GREASE TINS
(*First Revision*)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR ROUND GREASE TINS

(*First Revision*)

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Indian Standard
**SPECIFICATION FOR
ROUND GREASE TINS**
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 31 October 1980, after the draft finalized by the Metal Containers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 The revision of this standard has been taken up to incorporate the Amendment No. 1 issued in July 1968 covering 3 kg, 5 kg and 10 kg capacity tins which are mainly used for the Defence services.

0.2.1 With the experience gained in the field of tin fabrication and the study of the trends in the use of grease tins, clauses **1.1**, **3.4.3** and **3.4.4** and Table 2 have been modified.

Besides these changes the method of measurement of gross lidded capacity of the tins has also been included in this revision.

1. SCOPE

1.1 This standard prescribes the requirements for round built-up containers manufactured from tinplate or suitably treated blackplate, used primarily for packing of lubricating greases having specific gravity not less than 0.900.

1.2 These tins are meant to pack the following nominal masses of the lubricating greases:

0.5, 1, 2, 3, 5 and 10 kg.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 1394-1973* shall apply.

*Glossary of terms relating to metal containers trade (*second revision*).

3. REQUIREMENTS

3.1 Capacity — The gross lidded capacities of the tins shall be as specified in Table 1. The gross lidded capacity shall be measured by the method given in Appendix A.

3.2 Dimensions and Tolerances — The tins shall be manufactured to the dimensions and tolerances specified in Table 1 read with Fig. 1.

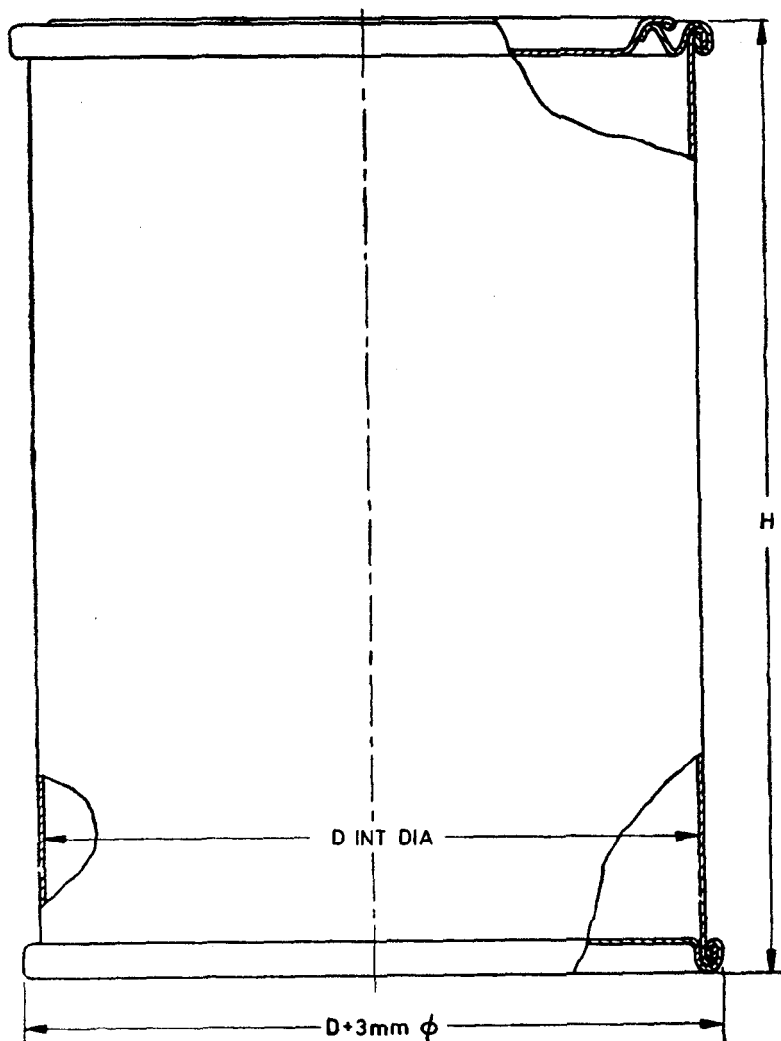


FIG. 1 DIMENSIONS FOR ROUND GREASE TINS

TABLE 1 CAPACITIES AND DIMENSIONS OF ROUND GREASE TINS

(*Clauses 3.1, 3.2 and Fig. 1*)

TIN REF	TO PACK WEIGHT	NOMINAL* TRADE SIZE	NOMINAL INTERNAL DIAMETER OF CAN	INTERNAL DIAMETER 'D'	PUNCH PLUG DIA	OVER-SEAM HEIGHT (FOR REFERENCE ONLY) 'H'	GROSS LIDDED CAPACITY	
							Min	Max
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	kg		mm	mm	mm	mm	ml	ml
				± 0.1	± 0.05†			
G1	0.1	307 × 412	83	83.39	83.10	121	610	650
G2	1	{ 404 × 512	105	105.1	104.95	146	1 176	1 260
		{ 509 × 314	138	138.45	138.48	98	1 300	1 375
G3	2	{ 509 × 611	138	138.45	138.48	172	2 450	2 600
		{ 509 × 703	138	138.45	138.48	182	2 575	2 700
G4	3	603 × 805	153	153.1	153.04	211	3 650	3 860
G5	5	700 × 1 010	174	174.14	174.45	170	6 180	6 480
G6	10	1 100 × 810	277	277.52	276.88	218	12 250	12 650

*This trade size is being given here because the market is currently more familiar with it. When the trade becomes familiar with metric nomenclature, the trade size will be deleted.

†This deviation shall not be confused with manufacturing tolerances. The deviation is not manufacturing tolerance but is given to allow different sizes of punch plug to be used within a limited range.

Punch plug diameter is given only for the guidance of can manufacturers and should not be considered for inspection purposes.

3.3 Material — The components of the tins shall be made from tinplate or suitably treated blackplate, as agreed to between the purchaser and the supplier, of the thickness specified in Table 2.

**TABLE 2 NOMINAL THICKNESS OF TINPLATE/BLACKPLATE
FOR ROUND GREASE TINS**

TIN REF	BODY	BOTTOM	RING	LEVER LID/FULL APERTURE LID
(1)	(2)	(3)	(4)	(5)
	mm	mm	mm	mm
G1	0.20	0.20	0.20	0.19/0.22
G2	0.21	0.20	0.20	0.19/0.24
G3	0.24	0.22	0.22	0.20/0.27
G4	0.25	0.25	0.25	0.25
G5	0.26	0.26	0.26	0.26
G6	0.30	0.30	0.30	0.30

3.3.1 The nominal thickness given in Table 2 are for plain body. If the containers are provided with beads, the minimum thickness of the body can be reduced by 10 percent.

3.4 Manufacture

3.4.1 Each component shall be made from a single piece of tinplate/blackplate.

3.4.2 The body and end seams shall be formed as shown in Fig. 2.

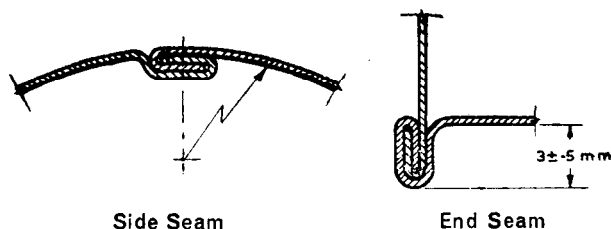
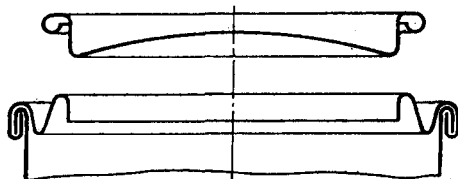


FIG. 2 SEAMS DETAILS

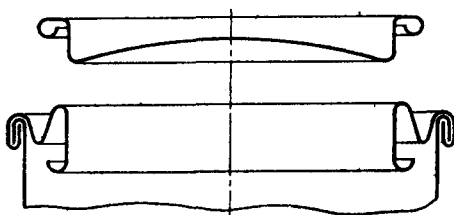
3.4.3 The seam shall be dry. If so required by the purchaser, the seam may be treated with animal glue cement or other adhesive. Side seam can also be welded or soldered.

3.4.4 The tins shall be provided with lever lid closures with ordinary lever ring or curled back (or safety), lever ring as shown in Fig. 3 A.

3.4.4.1 A diaphragm of polyethylene or aluminium may also be used below the lid or ring of tin container.



3A Ordinary Lever Ring with Lid



3B Curled Back or Safety Ring with Lid

FIG. 3 CLOSURES FOR GREASE TINS

3.4.5 If so required by the purchaser a bale type or D-shaped wire handle may be fitted to the 3-kg and above capacity tins.

3.4.6 The tins shall be new and in clean condition inside and outside and shall be free from rust and foreign matter likely to contaminate the contents.

3.5 Internal Finish — The internal surface of the tins may be given a suitable protective coating, if so required by the purchaser.

3.6 External Treatment — The outside surface of the tin may be given a protective and/ or decorative coating, if so required by the purchaser.

3.7 Leakage Test — The tin with treated seams, when filled with water shall not show any sign of leakage.

4. MARKING

4.1 The manufacturer's name, initials, or trade-mark and the year of manufacture shall be clearly and indelibly marked on the tin, if required by the purchaser.

4.1.1 The tin may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

A P P E N D I X A

(Clause 3.1)

METHOD OF MEASUREMENT OF GROSS LIDDED CAPACITY

The gross lidded capacity of tins is ascertained as follows:

- a) Drill two 8 mm diameter holes in the bottom of the tin adjacent to one another. Remove the burrs;
- b) Fit all the closure components (just as though the tin had been filled) being careful to ensure that none is omitted, for example, inner seal or diaphragm below the lid or ring. Ensure that any lever lid is correctly driven home;
- c) Weigh the closed (empty) tin;
- d) Then, with the closed tin inclined at an angle to the vertical, fill it through one of the holes with water at room temperature (15 to 20°C) from a narrow jet. When water first runs out of the second hole, complete filling is ensured by closing the holes with the fingers, gently shaking the can and completing the filling. Carefully remove all surface water;
- e) Weigh the filled tin; and
- f) The difference between the weights measured in grams is numerically equal to the capacity of the container in millilitres.

(Continued from page 2)

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